THE MEDICAL FORTNIGHTLY

Vol. XXXV ST. LOUIS, FRIDAY, JUNE 25, 1909. No. 12

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LEADING ARTICLES

SQUINT; AN APPEAL TO THE FAMILY CONSULTANT.*

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THIS a subject for which no apology need be offered. I know of nothing in the whole range of medical and surgical experience that has a closer or more important inter-relation between family physician, specialist and the individual, and I know of no subject that is less understood by the family physician than this very important one of "Squint." This is not to be wondered at when, until within the last few years, the eye man himself knew almost nothing of the *true* etiology of squint; therefore I am reading this paper, not for eye men, but to try and place the subject simply and clearly before the family consultant, so that he will not be excusable, in the future, for continuing the mistakes of the past. I refer to the mistakes of the past not as a criticism, but, as I hope to show, that the advise given by the family consultant is handed down from the eye men who had a mistaken notion as to the causation, and consequently, must also have had a mistaken notion as to the proper manner of handling and treating such cases.

*Read before the Vermilion County Medical Society, April 12, 1909.

Only within the last few weeks I read an article by a man who is a professor in one of the Chicago Medical Colleges in which he goes elaborately into the old accommodation theory of Donders, and in about four lines barely mentions the claims of Worth and that, in so unimportant a manner that the reader, who did not know Worth's work, would either think it of no importance or being the notion of some faddist.

About 1900 Worth published to the world the result of his work, but with such slowness does things move that we find hundreds of eye men now, nine years later, who know but little more about the treatment of squint than to fit glasses, and if this does not suffice, which it does not in 80 per cent of cases, to operate, at a time, when the squinting eye has become practically blind.

In 1900 Priestly Smith and many others were loudly proclaiming their faith in the theory of Donders. Wolfenberg just began to recommend advancement of the external rectus as a remedy without knowing anything about the true cause in these cases which did not respond to glasses.

However the family consultant will soon know as much about the vast importance of the early recognition of squint and its treatment as he now does of adenoid vegetations.

It is only a few weeks ago that I heard Dr. Babcock, of Chicago, say that the entire symptomatology of cholec-cystitis would, in the light of recent observation, have to be entirely rewriten. It is not the eye men alone that are working out a clearer and or definite pathology, but all along the line we are refining our methods of observation and on this we are having unfolded to us, truth after truth, that is slowly but surely leading us out of the mists of the past towards, and into the beautiful sunshine of the future.

Every time that we can lay aside a mistaken proposition of the past and realize that all uncertainty has been taken away we can hold our professional head a little higher and walk a little straighter an feel a little prouder.d

I think I will have no trouble in showing any one, who has not already gone into the subject for himself, that the tremendous importance of squint, with its etiology, pathology and treatment, has been forever settled on a definite and unassailable basis.

Mr. Claud Worth, of London, with whom I am happy to have had the pleasure of working, should have a monument erected to his honor as high and as wide and as beauti-

ful as any medical man who has ever received such tribute, for it is to his untiring work, that the world is indebted for the solution of this problem.

CASE I.—Miss Gertie N., age 15 years. Left convergent squint since two years old. At eight years of age tried glasses without benefit. Hm. O. D. 4.00 D. O. S. 5.00 D.

I am assuming and, I believe rightly, that only a very few general physicians and surgeons have, up to the present time, been familiarized with this subject and so important do I consider it, that I want first, to lay down a few simple facts and burn them into your memory with a branding iron so the impression can not be removed and the advice you give to mothers in the future will bring you honor and credit instead of being as it so frequently is today.

The first fact to consider is that every child brought into the world without the opportunity to choose life or oblivion is entitled to the very best chance to develop into a perfect and well-balanced organism. The handicap of life is great enough without the addition of any preventable defect in efficiency or appearance of any organ of the body.

The efficiency of the eye is probably of more importance than the appearance unless, possibly, in the case of a female child and, from another standpoint, which of the defects, efficience or appearance, is more deplorable may depend on the individual and what economic position he or she expects to take in the social system.

Visual economy will become more and more important as time goes on. Considerable investigation along this line has been made in the last few years, particularly by Ramos of Miexco, Troncoso of Spain, Habb, Fuchs, Hansel, Silex, Taylor, Allport of Chicago, Wurdeman of Milwaukee and Magnus of Breslau. Magnus and Wurdeman have jointly written the most extensive treaties extant on this subject.

Without going into a long and tiresome detail I will say that Magnus and Wurdeman have arrived at the conclusion that a person who has lost the vision of one eye has lost twenty per cent of earning capacity.

The second fact I want to impress even more forcibly is, that *every child that has a constant squint is almost absolutely certain to have a serious defect of vision in the squinting eye; which if it persists beyond the sixth year there is but little hope of restored vision.*

The third fact is that 85 per cent to 90 per cent of these cases can be cured without operation if seen by the end of the fourth

CASE I.—Advancement of external rectus by Worth's method.

year, and a smaller per cent of cures between the fourth and sixth years.

The fourth fact is that with but few exceptions any one of these children allowed to pass the sixth year without treatment will have one eye with a permanent defect of vis-

ion and an appearance that can be corrected only by operative interference.

Now to recapitulate these important facts: 1st. The loss of earning capacity from defective vision and appearance. 2d. The absolute certainty of defective vision following constant squint. 3d. The splendid prospects of cure if taken before the end of the sixth year. 4th. After six years the defective vision will probably never be restored and the appearance corrected only by operation.

With these facts before us let us proceed to investigate squint and its management.

For lack of time I will only take up convergent squint. Paralytic or congenital

Case II.—Miss Bessie E., age 18 years. Left convergent squint since 2¼ years old. Never any treatment until operation of August 21, 1908. O. D. plus 1.50 sph. equal plus 2.00 D. cyl. at 180 O. D. plus 5.00 sph.

squint forms so small a per cent of cases seen and is practically only amenable to operative treatment, which is not always satisfactory, will be excluded. I believe esophoria, which Valk designates as "latent squint," to be a distinct entity and will also be omitted.

Why is this subject important to the general practitioner? Because he is quite likely to see the condition first and upon his advice depends the future condition of the child. The man who advises waiting for the child to outgrow the squint, or says that the child is too young to wear glasses is as remiss in his duties as he who advises waiting in acute appendicitis.

What is convergent squint? Most textbooks say that it is a deviation of the visual axis of one eye from the correct position of fixation. Worth shows us that this is but a *single symptom* which we have formerly taken for the whole disease. One might as well call jaundice a disease of the liver.

In order that the eyes may be parallel there must be binocular vision. There are three grades of binocular vision: First grade: simultaneous macular perception. Second grade: true fusion with some amplitude. Third grade: sense of perspective.

An abnormal convergence of the visual axis and a defect of the fusion faculty is the two essential conditions present in every case of convergent squint.

Other conditions may also be found, e.g., suppressed vision of the squinting eye is almost invariably found. In rather rare instances there is congenital amblyopia. There is almost always acquired amblyopia in the deviating eye. There is usually a refractive error of greater or less degree.

Case II.—Miss Bessie E. Advancement of external rectus by Worth's method.

According to Worth, 75 per cent of these cases develop before the end of the fourth year, and in less than 7½ per cent the development begins after the sixth year.

In earlier times many curious suggestions have been offered as the cause of squint; such as an evil disposition, imitating others

so afflicted, looking at a curl or ribbon at the side of the head, sleeping in the moonlight, etc.

A shortening of the internal rectus was one of the first definite theories to be advanced which seemed so plausible and the cure so apparent that there ensued an age of indiscriminate muscle cutting. Soon the disastrous results of the practice were beginning to be seen. About this time Donders published his great work, and his "accomodation theory" of the cause of squint became popular.

This muscle theory can very quickly be proven wrong by simply observing that in all squint cases the internal rectus does not prevent the squinting eye from turning out as perfectly as the straight eye in 81 per cent of cases and nearly perfect in the remaining 19 per cent, and again under general anesthesia the squint may disappear, or the eye even diverge which all clearly shows that squint is not caused by a short internal rectus.

Donders accommodation theory dominated the world for many years and he did indeed let in the first ray of light into a dark corner of ophthalmology.

Normal eyes looking in the distance are at rest, but on looking at the reading distance the eyes must converge to bring the visual axes to a focus, and at the same time the eye must accommodate for the shorter distance. In eyes where there is hypermetropia the eyes have to accommodate not only for distant objects, but still more for near objects, and with this there is a tendency for abnormal convergence. This abnormal tendency of such eyes to turn in Donders considered to be the cause of squint and advised glasses as a cure of this condition. *It has been found that glasses alone cures only about 30 per cent of these cases. It is also known that only a small per cent of children with hypermetropia develop squint, and it is further known that some children have squint who do not have hypermetropia*, and a few 1 to 2 per cent are myopic.

With this evidence we must look farther for the true cause of squint.

This brings us up to the teachings of Worth who has shown us that in every case of convergent squint there is either a total absence or a defect of the fusion faculty. *This is the true cause of squint and all the formerly attributed causes are but factors in individual cases.*

What is this fusion faculty, that when developed, holds the eyes parallel in spite of a weak muscle, or hypertropia, myopia, astigmatism or heterophoria.

The fusion faculty is that power of the brain to so blend the impression received from the two eyes that we are conscious of but one picture.

Motor co-ordinations are fairly developed in the infant's eyes at birth, and soon the fusion faculty begins to develop and is well advanced by the end of the twelfth month, and fully developed at the end of the sixth year. When the fusion faculty is fully developed this instinctive tendency to blend the two images will keep the eyes straight in spite of hypermetropia, heterophoria, anosometropia. In fact nothing but a muscular paralysis can cause squint in the presence of a fully developed fusion faculty, and it is simply the absence of this faculty, in the presence of some exciting cause, that allows one or the other eyes to turn in; usually the one with the greatest degree of refractive error. The exciting cause may be hypermetropia, anisometropia, esophoria, specific fevers, violent mental disturbances and hereditary influences.

In investigating a case of squint the following points are to be carefully looked into: The history, character of the squint, the power of fixation in the deviating eye, the movements of each eye separately, vision testing, the condition of the fusion faculty, the angle of the deviation, and the refraction under atropine.

This method of investigation looks rather formidable, but where one is familiar with all the details it is a simple matter and rapidly carried out.

Since this paper is intended to arouse the interest of the family consultant, I deemed it best not to go into the technicality of a thorough examination of one of these cases. The above outline gives you a comprehension of what it would embrace.

Now as to the management of a case of convergent squint. *We can say that no child is too young to begin treatment, or too young to wear glasses as a part of the treatment.*

Worth says: "The objects to keep constantly in view in treating squint are: 1st, to prevent deterioration of the vision of the deviating eye, and to restore, as far as possible, the sight of the eye in cases in which amblyopia from disuse has already been allowed to occur. 2d. To endeavor to remove the fundamental cause of squint, by training the fusion sense at the earliest possible age. 3d. To restore the visual axes to their normal relative direction."

For this he recommends one or more of the following five therapeutic measures: 1st. Optical correction of any refractive error. 2d. Occlusion of the fixing eye. 3d. Instillation of atropine into the fixing eye

only. 4th. Training of the fusion sense. 5th. Operation.

If necessary glasses can be prescribed for a child as young as twelve months, or even six months, if that should be deemed especially important. The glasses should be worn constantly except when in bed. A one, two or three-year old child soon discovers that it sees better with the glasses and is more comfortable.

I distinctly remember two years ago a four-year old child for whom I prescribed a six diopter lense for one eye and a five diopter for the other. After the first day she would not let the glasses be removed until she had been placed in her bed, and actually would lie in bed mornings with her eyes shut until her mother would come with her glasses and put them on for her, then she would open her eyes. If when playing a little companion knocked off her glasses she would shut her eyes and cry out for her mother to come and put on her glasses, then she would return to play. This not only shows what discomfort a child may have to endure from a refractive error, but the comfort they may have from an accurately fitted lense.

Glasses should be prescribed after complete paralysis of the accommodation with atropine. As many of these children are too young to give intelligent answers the retinoscope alone must be depended on to find the character and strength of glasses needed.

In cases where the deviating eye is partly blind the fixing eye, i. e., the straight eye, must be occluded from vision, by some sort of pad plaster or strap *so that the bad eye only can be used.* As we consider that the bad eye become so from disuse we try to restore vision by forcing it into use. In young children where the deterioration is not extremely bad, marked improvement in vision often takes place in a fortnight. The covered eye should be examined daily or weekly to see that nothing is going wrong and the pad kept on for a month or longer, according to progress.

In the cases of the younger children where the vision is not too badly deteriorated atropine is used in the straight eye only. This paralysis the accommodation and with its glasses on it soon learns that it can not see its picture book and toys distinctly with the atropized eye, but by a conjugate lateral movement of both eyes it finds that by bringing the squinting eye to bear it sees more clearly. In this way it comes to use the straight eye for distant and the squinting eye for near objects and thus deterioration of the squinting eye is prevented by forcing the squinting eye to be used part of the time. Frequently an eye that has bad vision will in a few months work marvelous improvement in vision.

CASE III.—Miss Irene N., age 18 years. Left convergent squint since three years old. At 12 years of age tried glasses without results. Hm. O. D. 3.00 D. O. S. 4.00 D.

CASE III. -Advancement of external rectus by Worth's method.

When vision has improved to normal or nearly normal, the child will use the squinting eye for both distant and near work. At this time the atropine is stopped to see what will happen, and usually the child will drift back to its old habit of squinting. At this time it would be well to use atropine in the straight eye for the first week of each month.

This treatment to be kept under observation, for if continually used you would likely transfer the squint to the fomerly fixing eye. This treatment is intended to keep the eyes in some balance and prevent blindness until such time as you can train the fusion faculty with the amblyoscope. I have now two such cases under my observation with this manner of treatment waiting until they are old enough to begin fusion training.

Training of the fusion faculty can not be attempted very successfully under three years of age, and better from four to five, when the child is old enough to understand and answer questions. After five it becomes difficult to stimulate binocular vision, and after six it is almost useless to attempt fusion training! This step in the treatment is the one of paramount importance, for as we have previously said a defect of the fusion faculty is the true cause of squint, and if it is not developed or awakened the case will never be cured except by operation, and even then bad vision will likely result.

Operative procedures become the last resort in those cases in which the above routine has failed to get the desired results and remember *that if you get your case under observation before five years of age 85 per cent to 90 per cent will be cured, and after six years of age but very few.*

We have two operative procedures or the two combined. They are tenotomy of the internal rectus or advancement of the external rectus.

Tenotomy alone has but few supporters today; however four years ago I saw Von Michel do fourteen tenotomies one morning.

Advancement is undoubtedly the operation of choice, as by an accurately performed advancement the eye can be rotated to the exact extent required. If the squint is greater than 25 degrees it is recommended to do a tenotomy, at the same time to avoid retraction of the globe.

There are a number of advancement operations described, all with their good points no doubt. The few that I have had occasion to do is the one I learned from Worth, and as his results are all that could be desired I have had no inclination to try any other method. The photographs here reproduced will, I think, show the cosmetic result of a successful advancement operation. The three girls, represent cases that after my examination, I feel sure that had they been seen before six years of age could have had two good eyes for vision, whereas one now is badly defective. They could have also been saved the necessity of an operation.

I hope that I have been able to make clear to the family consultant the importance of this subject and where his duty lies. Those present who are familiar with the subject will know how much of detail I have left out and how many things of great importance I have not touched on when it comes to the actual handling of one of these cases.

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BRIEF REVIEW OF THE HISTORY OF SCIENTIFIC MEDICINE, WHAT IT HAS DONE AND DOES TO-DAY FOR MEDICINE AND SURGERY.*

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ACUTE sense indeed is required to realize the many and radical changes that have taken place in the different departments of medicine during the closing years of the past century. Within but a little over a decade an entirely new science has arisen causing the science of medicine to be entirely recast. In time past empirical treatment was the only kind of treatment possible because the mode of action and the effects of medicine were little understood. Empirical treatment taught that certain remedies should be taken for the reason, that in apparently similar conditions their administration had been followed by good results. Owing to the fallacious character of the teachings of experience as pointed out by Hippocrates in his celebrated "aphorism" it results, that pure, blind empiricism abounds in error, and as a rule of practice, is the poorest system of treatment to follow. On the other hand, where the knowledge obtained at the bedside is aided by sufficient acquaintance with the teachings of scientific branches of medicine, we have an enlightened empiricism, which is the best practice possible, since it affords the patient all the assistance which science and experience combined to an up-to-date knowledge, can provide toward hastening and completing his recovery. It is not my in-

*Synopsis of lecture delivered before Broome County Medical Society at Binghamton, N. Y. Illustrated by stereopticon views and magnified micro-reproductions.

tent to cite any special prophylactic or hygienic regimens which have so greatly contributed to medicine and surgery, but I will confine myself to a short review of the history of scientific medicine leading up to the practical application of these sciences by the Physician and Surgeon. The retrograde and again the retarded application of hygienic, prophylactic and therapeutic measures which one could observe so readily in former years, and which in my opinion was due to a fixed and stationary system advocated by antagonistic schools of medicine, appears now a memory of the past. Dunglison once said: "Every judicious physician must be an eclectic in the sense that he selects from every source the best means of controlling disease."

Antipathy, the source of all pathies was the creation of firm beliefs of respective advocates, and with it came the demon's rivalry and retrogression which are to blame for the slow advances in medicine as an approved and exact science. With the abolition by the New York State Board of Medical Examiners of examinations in materia medica and therapeutics, I believe a bright and advancing era in medicine is assured, and I believe Dunglison's description of the judicious physician will apply to every practitioner of medicine and surgery, irrespective of pathies or schools. It is incorrect to begin the consideration of the History of Scientific Medicine from any other day than from its first application for practical use. The teachings of some of the branches of scientific medicine, such as physiology, biology and embryology are of less use in the daily practice than pathology, bacteriology, hematology, and last, but not least, chemistry, a good knowledge of which is absolutely essential for the proper understanding of any of the aforesaid branches, for we deal with physiological, pathological, bacteriological chemistry and the knowledge of the chemistry of the blood is absolutely necessary to derive the full value of information that can be had from blood examinations. Physiology is that science which embraces our knowledge concerning the properties of living matter, protoplasm, and was brought into eminence through the renowned physiologist (Purkinje) in 1840, thus the practice of medicine prior to this date, as previously stated, was practiced on empirical lines, the physiological action of the various therapeutic agents not being understood at that time. Physiology deals with the phenomena of animal and plant life, with nutrition, the power of converting dead material into living substance, reproduction, the power of each organism to perpetuate its kind by the formation of new individuals.

Conduction and Contraction. The latter two are primitive properties of protoplasm, while the former two include digestion, secretion, absorption, excretion, anabolism and katabolism. Sensibility or sensation might be added as a fifth property. Physiology as an exact science is confessedly very imperfect and cannot compare with in exactness with the sciences of chemistry and physics. Human physiology is founded upon experiments upon the lower animals, and its modern development has been largely due to the application to this branch of science of physical and chemical principles and laws. Physics and chemistry are now constantly appealed to for aid in working out physiological problems, and the physiologist finds himself continually resorting to physical methods and apparatus both for purposes of illustration and research.

Pathology is the science which treats of changes and processes in diseases, and is divided into two branches: Morbid anatomy and histology which deal with structure, and morbid physiology, general and experimental pathology dealing with functions. Comparative observation regarding the studies in the various departments of medicine and surgery admits that our knowledge of morbid anatomy exceeds that of morbid physiology, as also that of normal anatomy exceeds that of normal physiology. The scope of general pathology is to correlate symptoms with structural changes and trace the connection between them. This requires direct experiments, resorting to morbid and normal anatomy, physiology, chemistry, bacteriology, etc., and with the aid of these sciences, pathology endeavors to unravel the symptoms, causes and processes of disease. General pathology is no longer a theoretical factor, on the contrary, it gives a sure basis for diagnosis, treatment and prognosis. In the study of health and disease the interdependence of tissues is frequently ignored, which fact may be illustrated as follows: The formation of an ulcer on any of the extremities will bring forth an opinion that such an extremity is diseased, but should such ulcer be syphilitic then the opinion is rendered the patient is diseased, while de facto the body is equally affected in both instances. Ulcer on the extremities will cause an afflux of blood to the affected part, and a relative diminution of blood in other parts, demonstrating that in ordinary ulcer cases the entire body becomes affected, but we will note that in such cases the local condition is primary and the general condition secondary, while in cases of syphilitic ulcer we find

the general condition primary and the local as secondary. A patient has on the toe a small indolent ulcer which has penetrated into the joint and cannot tell its cause. On close questioning we learn that a few days prior he pared a corn and drew blood. Now pathology teaches that ulceration occurs when the resistance of tissues is insufficient to overcome the effects of an irritant. If we question ourselves regarding the causes of lowered tissue resistance, we can sum it up under the word malnutrition, which implies insufficient blood supply, or perverted nervous control of the tissues or both. We may find that there is no evidence that the circulation is specially impaired, but that there is ample evidence that nervous control of the lower limbs is abnormal. The patient has a peculiar gait, a sensation of impairment of the feet. We are now on the right path and by reasoning we can conclude that the ulcer is the manifestation of disease affecting the afferent tracts of the spinal cord. General pathology has guided us to a correct diagnosis. The true and constant aim of therapeutics must be to combat causes of disease and to avoid treating symptoms. Pathology teaches that local treatment of simple ulcer is highly beneficial in promoting a cure and at the same time it teaches that the adoption of the same course in the care of syphilitic ulcers is practically useless, for the latter are merely symptomatic. Thus general pathology inquires into the principles and laws of disease, it serves as a basis for diagnosis, treatment and prognosis, it is the culminating point to which all medical studies are directed and the sole starting point, whence a sound knowledge of medicine and surgery can be attained. Bacteriology, broadly speaking, was known as early as the 43d Olympiad 610 B. C. when Miletus held that animals were formed from moisture. The practical demonstration of micro-organisms came with the advent of the compound microscope. Report has it that the earliest compound microscope was made by Janseus, a spectacle maker of Middleburg, Holland, near the end of the 16th century. One of his instruments was exhibited by Drehbel of Alkamar in London in the year 1617. By others it is claimed that Anthony van Leenwenhock, justly called the father of microscopy, an optician by trade, perfected the first simple lens, and this was followed by the advanced opinions of Plencig of Vienna in 1762 that there was an undoubted connection between the microscopic animals exhibited by the microscope, and disease. Through the efforts and skill of Selligues, Chevalier, Lister and others the first compound microscope was at last produced in 1830, and with it the science of histology was born, which in turn through Virchow's labors gave impetus to pathological histology. Henle labored as early as 1821 to propound the germ theory. As late as 1875 but few scientific men had embraced the germ theory; and in this same year Dr. Bastian spoke on the germ theory before the Pathological Society of London. His address and demonstrations were so complete in details that many new converts were made. When Weigert introduced the aniline dyes in 1877 a decided step forward was made, and in 1879 Hansen announced the discovery in leperous nodules, and Neisser discovered the gonococcus. In 1880 Elbert observed the typhoid bacillus and Pasteur published his work on chicken cholera. In 1882 Koch discovered the tubercle bacillus and from this time bacteriology became an exact science.

Aside from enabling us to recognize and differentiate bacteriae spores and parasites, bacteriology has furnished us effective therapeutic and prophylactic agents in antitoxins, serotoxins and bacterial vaccines, the latter of which is the latest acquisition to medical sicence and on which I will dwell later. Too well do we know the history of vaccination but little is known of the trials and tribulations of that great humanitarian, Dr. Jenner, an English surgeon who introduced vaccination A. D. 1800. His labors began in 1768 and took thirty-two years to introduce vaccination in the United States, Germany and France. Many years after the beginning of his first observation he timidly confided to his bosom friend Gardner his mighty hopes in vaccination for the great good of all mankind. That these hopes are more than realized can be proven by comparative health statistics in localities where vaccination is compulsory with those of localities where vaccination is optional or not practiced at all. Is it possible for us to conceive the amount of labor, patience and privation this benefactor to mankind suffered during all those years of study and observation, a benefactor of whom Martin wrote: "He was a truly great and philosophic man, worthy to be, as he was, the chosen pupil and life-long friend of John Hunter." In 1880 when Koch published his work on tuberculin he was at first hailed as the greatest living savant, but when his tuberculin fell into incompetent channels a great cry of denunciation followed. Reactions set in with time, and to-day he is accepted as one of the leading lights in the annals of medical history. The advent of Koch's tuberculin, led to the elaboration and preparation of antitoxin, one of which would not have had

a chance to prove its efficacy had it not become a mandatory order from the board of health to use diphtheria antitoxin in all suspected cases of diphtheria. Health statistics again prove the reduction of fatal cases since the advent of antitoxin therapy. Failures with the latter are mostly attributable to its too late employment. Considering the theory of toxins versus antitoxins we can readily see why the early administration of antitoxin should meet with favorable results. The toxins liberated by bacteriae have a strong affinity to body cells but a stronger one to antibodies. If taken into the body cells inflammation and infection spread and in many instances the anti-bodies would be insufficient to overcome them, but if antitoxin were employed in time then these toxins would be taken up and neutralized by the anti-bodies. Immunity exists where phagocytosis is present. As early as 1840 did Dr. Virchow point to the relation between immunity and the phenomenon of phagocytosis, and Koch observed in 1878 the action of the phagocytes towards bacteriae but no careful study was made of these phenomenon until finally the greatest living savant, Prof. Metchnikoff of the Pasteur Institute in Paris advanced his theory of phagocytosis in 1884.

It would require a great deal of time to enumerate the many experiments of Metchnikoff's, all of them leading up to the opsonin theory, which later was put to practical use through the excellent work of Sir A. C. Wright, M. D., of London. Opsonins are identical with certain other antibodies in the circulating blood and to which the appropriate term of bacteriotropic elements might be given. Opsonin is derived from the Greek "opsono" converting into palatable pabulum, preparing for food, and it exists in normal serum and in larger quantities in the serum of successfully inoculated subjects. A brief explanation as to the preparation of bacterial vaccines will suffice, as I will later illustrate the methods employed, together with cases successfully treated with bacterial vaccines. The latter represent killed bacteriae suspended in normal salt solution and sterilized at 60 degrees C. These solutions are standardized by calculating the total number of bacteriae in one c.c. and are dispensed in Wright's capsules in denominations ranging from 15,000,000 to 500,000,000 bacteriae to the tube or capsule. If prepared from stock culture in the laboratory they are termed stock bacterial vaccines to differentiate them from autogenous vaccines which are freshly prepared from fresh cultures obtained from a specified case to be treated. The increase or decrease of opsonins is determined by means of the opsonic index, which represents the difference in opsonic power of the blood serum of an infected person as compared with that of the healthy subject. When reading opsonic indices the reading of the healthy being is given as 1.0. The method employed is as follows: Equal parts of an emulsion of red cells and leucocytes and an emulsion of bacteriae and serum are mixed and held at a temperature at 37 degrees C. for about fifteen minutes, after which a spread slide is prepared from this mixture and studied under the twelfth oil immersion lens. Leucocytes will differ as to size, form and contents of bacteriae engulfed. These variations may be due to phagocytic activity, but may be caused by interference from red cells, which are present in large numbers. To be correct, tact and experience are required to prepare useful smear slides, and at no time should the first or succeeding counts be made but by the same person to avoid differential counts which would be likely to occur owing to variations in manipulation and methods employed. It is necessary to count from 50 to 100 cells (leucocytes) and to count the number of bacteriae ingested by them. In a specimen smear in which 50 to 100 leucocytes are studied, and in which 500 streptococci have been treated with healthy serum we find that 50 leucocytes ingested 250 streptococci and 100 ingested 500 streptococci, etc. Our next step would be to take the serum from a person afflicted with furunculosis or any other disease in which the streptococcus should prove to be the infecting agent and upon study we find that 50 leucocytes ingest 150 and 100 ingest 300 streptococci, then the opsonic index of such person is, 500:300::1:0.6—0.6. Having thus obtained the primary opsonic index of the patient the inoculator proceeds to inoculate the bacterial vaccines as required. We may now note that the bacteriotropic pressure of the blood is preceded by a depression, which phase is known as the negative phase while the rise is known as the positive phase of the reaction of immunity. The increase in bactericidal power of the blood by an increased phagocytotic response is 24 hours. Bacterial vaccines are contraindicated in acute diffused infections characterized by toxemia, but excellent results have been reported in that type of infection where a single species of germ had penetrated into the interior of the body and had established itself in one or more foci without causing any considerable destruction of tissue or constitutional disturbance. By the aid of the opsonic index the patient's progress or regress can be very accurately followed. Regarding a bacterial vaccine in tubercular infections I will speak

later while giving illustrative demonstrations. The latest and most useful acquisition to the department of scientific medicine is presented in hematology. The red blood corpuscles in man were first demonstrated in 1673 by Leenwenhock, the inventor of the first microscope, to whom I previously alluded. The property of adhesion in rouleaux form was first described in 1770 by Hewson. he works of Bunge and Hoppe-Seyler gave us our knowledge of hemoglobin and plasma. Ehrlich, Schultze, Hagem, Romanowsky, Eimann and others gave us staining methods for differential counts and Vierordt was the first to actually accomplish the enumeration of the red blood cells. Potain constructed the first mixer by means of which accurate dilution of blood was accomplished, and later the Zeiss-Thoma counter became recognized as the only reliable counting apparatus. With all the knowledge and scientific apparatus on hand up to this time, no work aside of estimation of hemoglobin, red and white cells was accomplished until the teachings of my former preceptor and teacher, Prof. R. von Limbeck, were published in book form. Under the tuition of these two great savants, Professors Metchnikoff and von Limbeck, I studied the rudiments of hematology and for twenty-four years past my time has been entirely devoted to scientific research work on lines laid out by them. An imperfect knowledge of hematology is worse than none, and work of research on hematological lines should only be entrusted to those who through years of labor have proven themselves competent to practice in this particular and essential department of medicine. Regarding the origin of the blood corpuscles we have the following data.

The subject of hematology covers such an enormous field in all branches of medicine that I will endeavor to bring forth only such factors which are almost entirely new to you, or which through lack of time during your college days, were only theoretically taught and applied. I like to stand before you on this occasion as a defendant in a court of justice pleading to a jury for a fair and unbiased verdict. Should I fail in my attempt to so clearly outline to you what experimentation in the leading laboratories of two continents has taught me to be of practical value to physician and client alike, then I ask you to be considerate in your judgment and allow that on my part sincerity and accuracy in all my work, coupled with enthusiasm aroused by seeing the theoretical and laboratory deductions being put to practical good results at the beside of the patient, be it private, clinic or hospital case, have aroused me to take the stand I have unreservedly chosen upon this occasion. For argument's sake let me admit at the outset that some one of you, maybe all of you, at some time or other, or even upon each occasion, have been disappointed by receiving but meagre information when you looked for better aid by laboratory examinations. Right here may I ask you, were the laboratory workers, whether chemists, pathologists or bacteriologists, which you consulted, eminently trained, fitted and qualified to undertake to represent themselves as specialists in certain fields of the department of medicine? One glance with me into the laboratories of the greater city will convince you that the workers therein are recent graduates, and, in a few instances medical men who have devoted but a few years to the department of scientific medicine. How then can you expect expert evidence from a comparatively young aspirant to the deservedly achieved fame held by men of history, such as Jenner, Pasteur, Koch, Wright, Neisser, and the greatest of all living savants, Metchnikoff? Would it not appear equally as nonsensical to you, were I to trust a recent graduate to assume the role of expert diagnostician or require him to exhibit the most brilliant skill of the expert consulting surgeon. Oh how unspeakably great are the works of these masters, yet by frivolity's hands they are downward pulled. No! Doctors, the argument is no longer one-sided but both must be heard, before a hasty or unwarranted opinion is rendered. I only point out to you certain paths of thought, which I trust, you will have time to consider when you have returned to your offices, studies and homes. The weighing of evidence in the seclusion of your office with literary referenda at hand, is the work and duty of the true and honest physician, it is only after careful, unbiased and fully comprehended figuring pro and con that you will be able to discern between the abyss of darkness and the pinnacle of light, thus only can you the nucleoli's mystic dance decipher aright. As you owe a duty to yourself so you owe it to your patients and all mankind. The noble profession we have chosen for our calling eminently demands that each of its members should represent in common with its learning, the two great virtues, goodness and greatness. Only two virtues exist, oh! would they were ever united. Ever the good with the great, and the great with the good. Good from the good—to the reason this is not hard of conception.

But the genius has power good from the bad to evoke. To give a complete history of hematology would require volumes of

works, for it would require a discussion of the origin and maintenance of the liquor sanguinis or plasma, a description of the formation, growth and life history of the different corpuscular elements, etc. Information and demonstration of the latter can only be obtained by years of labor in laboratories and clinics, for the teaching of hematology as practiced in the different medical schools only embraces a partial knowledge of the estimation of hemoglobin, red and white cells, recognition of the histological structure of the latter, recognition of malarial parasites and bacteriae. The school space of time allowed to even obtain this meagre information is insufficient to permit of accurate work, and the slightest inaccuracy in differential staining and counting, results in grave errors and does in part explain why the subject of scientific blood work is not adopted by the profession on a larger scale. It is of importance that I should at this time recapitulate a few facts regarding the formation of blood corpuscles and begin with the intrauterine formation of blood corpuscles. Life is created by the combining of two or more nuclei to form a nucleus which fact physiology has taught and demonstrated to us, and this in turn brings about cell proliferation. The fact of this is clearly shown to you when you observe that every cell of the blood of a four-week old embryo is nucleated. The earliest red blood corpuscles arise outside the growing embryo in portions of the mesoblastic tissue otherwise known as the area vasculosa, in which certain pigmented patches appear caused by the development of hemoglobin with the cells. The latter are termed "blood islands," and in these the first blood vessels and cells originate. Later in the cycle of development outgrowths from the latter form and continue to develop the blood vessels and within the embryo. As to the formation of the initial blood vessels and cells in the mesoblastic cell it is accepted that they originate from solid cords of cells, which in turn later develop to form the heart and vessel with the contained plasma and cells. These cords appear in the vascular area and form a sort of network. The peripheral cells in the cords alter later to form the walls of the future blood vessles, while the central cells become pigmented with the hemoglobin, acquire a spheroidal shape and remain adherent in tufts, meanwhile a serous fluid appears between the masses of cells within a developing vessel which forms what is later known as the plasma. This latter fluid is now set in motion by the contractions of the heart which had developed in connection with the system. It detaches by degrees the adherent cells, which then circulate and form the first red corpuscles. The latter increase by indirect division of both the circulating and adherent cells. It has been observed that the circulating fluid in a four-week old embryo is colorless and consists entirely of nucleated red cells. At three months the nucleated cells represent about 25 per cent of the red cells, at five months 20 per cent, and immediately after birth no nucleated red cells are found, but in their stead we find the young lymphocytes. Reciting the aforegoing I had in view the desire to attract your attention to the importance of the nuclei in all histological structures, and those desiring further information on this point I refer to the many works of histology.

Now a word as to the manipulation of instruments required for the taking of blood. First of all, a careful system to be employed is the greatest necessity to gain accurate results. I object to the cleaning of the surface from which the blood is to be taken, by alcohol, soap or any other cleansing whereby friction becomes a factor, for two reasons: Friction produces local irritation and causes local centralization of leucocytes, thereby leading to abnormal leucocytic counts. Most soaps contain potash and resorption being rapid, part of the chemical constituent will enter the blood and change the histological structure. I advocate spraying the surface to be punctured with ethyl chloride. First it produces local anesthesis and anesthetics do not alter the blood; second, it cleanses away all foreign particles of fat, dirt, etc., and leaves a sterile surface. I object to the use of ordinary or surgical needles, bistoury, lancets, etc., for puncturing. The sight of any instrument the patient recognizes as being used to inflict a wound to cause a flow of blood, will produce a leucoctyosis due to fright or shock. A blood needle made on the line of a miniature sacrificator can easily be hidden in the operator's hand, and the blood can be obtained without the patient anticipating the intent. The manipulation and treatment of smear slides; counting of cells, and reading of hemoglobin are too well known to require capitulation. Correctness of staining method depends upon the efficiency of operator and the solutions used. All staining solutions should be frequently renewed and I find a great convenience and help besides an accurate standard of quality in the use of soloids (Boroughs and Welcome). One soloid dissolved in the menstruum of water or water and alcohol or alcohol, renders 15 c.c. standard staining solution. A few words as to the blood in infectious and malignant diseases. The microscopic study of the structure of the

malarial plasmodium, the parasite and spore will enable you to definitely classify the parasite and determine the approach of a paroxysm. The appearance in the blood field of crenated ameboid red corpuscles has been studied by me in hundreds of cases of syphilis, carcinoma, and in recent cases of vaccination. I selected these cases some years ago from cases in the New York Skin and Cancer Hospital, Post-Graduate Clinic, Bellevue Outdoor Clinic, St. Catherine's and St. Peter's Hospital, Memorial Hospital and Metropolitan Hospital. I observed that though crenated red corpuscles are found in many other diseases, they never exhibited ameboid movements excepting in cases of carcinoma, syphilis and immediately after vaccination, which at that time led me to believe in these conditions we have to do with a virus as the etiological factor. Such belief I still hold to, nothing to the contrary having been proven.

Dr. F. C. Wood in his preface states: "Facts obtained in the laboratory may occasionally be of more value than those secured by the physical examination of the patient, they more often possess a corroborative force ranking with the observations procured by the stethoscope and eye, occasionally they have merely a scientific worth and are relatively unimportant from a point of view of an immediate diagnosis," and I fully concur in his opinion.

In concluding this the historical part I now beg your kind attention to the various illustrations and stereopticon views illustrating the blood examinations in a number of medical and surgical cases in which the blood examinations and diagnoses were made without eliciting a single symptom or history of the case from either physician, surgeon or patient.

Miss C., age 35. Case 2218. April 9, 1908.

Blood Examination.—Hemoglobin 50 per cent; red cells, 3,000,000; white cells, 16,500.

Remarks: Red cells poor in color and form. Extreme irritable leucocytosis.

Pathological Count of Leucocytes.—Lymphocytes, 6 per cent; mycrocyte, 1; normoblasts, 2 per cent; mononuclears, 12 per cent; polynuclears, 71 per cent (all aged); eosinophiles, 8 per cent; neutrophiles, all polynuclears; basophiles, all mycrocytes.

Remarks.—This blood picture would lead to the following remarks:

In this case the fresh blood examination shows an anemia plus irritative leucocytosis, the nature of the latter being explained by the pathological count of the leucocytes. Aside from showing the impoverished condition of the blood by hemoglobin and red cell count we find first of all a very low count of lymphocytes, viz., 6 per cent. The latter are the youngest form of leucocytes and should be present in about 15 per cent. Mycrocytes are strictly pathological (probably of physiologic chemical character) cells found in temporary polycythemias. In these conditions patients appear flighty. The 1 per cent normobalsts denote degenerative changes in the red cells. The marked eosinophilia of 8 per cent denotes severe neuroses due to parasitic infection of the intestine or autoinoculation. The former view must be discarded in this case as the total neutrophilic character of the polynuclears does not allow such conclusion. The basophilic granulation of the mycrocytes (fetal blood cells) is of considerable interest in this case. This condition of the blood is known as polychromatophilia and is found in all cases of extra-uterine pregnancy, ovarian cysts and fibroid ovarian tumors and polypi. All of the above factors would give rise to hallucinations or disseminated encephalo myelitis.

Report on different specimen removed during operation on Miss C., April 21st, 1908:

A. Detritus recovered from washing of lower bowel, and

B. Clippings from posterior vaginal wall.

A. Mucus, vegetable cells containing chlorophyl, fibrin shreds.

B. Hypertrophized valvovaginal papillae.

Specimen Removed by Operation.—Unilocular ovarian cysts about $3\frac{1}{4}$ inches long $\frac{7}{8}$ inch diameter, $1\frac{7}{8}$ inch circumference containing a clear greenish brown fluid with some red from admixture of blood. The wall of cyst is composed of fibrous tissue with an inner lining of cylindrical epithelium probably derived from Wolffian body. Some warty growths, papillomatous and pedunculated.

C. From curettage of uterus.

Mucoid Polypi.—An operation was decided upon and performed on April 21st by Dr. E. H. Muncie, assisted by Drs. Ballard and Muncie and the essayist, I give here with the result of four consecutive blood examinations during the progress of the operation:

First examination made before operation and during anesthesia: Hemoglobin, 60 per cent; red cells, 3,100,000; white cells, 13,000. Pathological count: lymphoctyes, 8 per cent; myerocytes, 1 per cent; normoblasts, 2 per cent; mononuclears, 15 per cent; polynuclears, 69 per cent; eosinophiles, 5 per cent. Neutrophiles, all polynuclears; basophiles, all mycrocytes.

Second examination after diluting rectum:

Hemoglobin, 65 per cent; red cells, 3,300,000; white cells, 13,000.

I here call your attention to the increase of hemoglobin and red cells between the first and second examinations, and wish to state that for months past I have found that dilutation seems to stimulate the hematopoietic organs to activity.

Pathological count: Lymphocytes, 10 per cent; mycrocyte, 1 per cent; poikilocytes, 1 per cent; normoblasts, 1 per cent; mononuclears, 24 per cent; polynuclears, 60 per cent; eosinophiles, 3 per cent; neutrophiles, 50 per cent of the polynuclears; basophiles, all mycrocytes.

Third examination after diluting urethra and uterus, and injection of saline solution: Hemoglobin, 65 per cent; red cells, 3,200,000; white cells, 11,000. The small decrease of red cells may be attributed to hemorrhage, but the white cells are somwehat diminished. Pathological count: Lymphocytes, 10 per cent; mycrocytes, 1 per cent; poikilocytes, 1 per cent; mononuclears, 26 per cent; polynuclears, 60 per cent; eosinophiles, 2 per ent; neutrophiles, 40 per cent of polynuclears.

Comparing this with the former examinations we note the youngest form of leucocytes, viz., lymphocytes has somewhat increased; poikilocytes are present (viz., young red blood cells) normoblasts (pathological) have disappeared, neutrophilic granulations (indicating inflammatory processes) have been reduced 100 per cent.

Fourth examination at completion of operation and after administrations of nitroglycerine and strychnia sulph. hypodermic injections. Hemoglobin, 55 per cent; red cell, 3,100,000; white cells, 11,500. Pathological count: Lymphocytes, 10 per cent; mononuclears, 28 per cent; polynuclears, 60 per cent; eosinophiles, 2 per cent; neutrophiles, 30 per cent of polynuclears.

I call your attention to the disappearance of the basophilic granulated mycrocytes as soon as the removal of the unilocular ovarian cyst.

This is but one out of many other cases, histories and illustrations of which I herewith submit for your critical inspection, by which the value of correct blood examination is proven as a most valuable diagnostic factor.

FEW people ever learn the real art of living, never learn how to fill every day with beauty, joy and helpfulness. They do not know the tonic of perpetual growth, the stimulus of constant unfoldment.—Ex.

THE MEDICAL FORTNIGHTLY

Issued Tenth and Twenty-Fifth of Every Month.

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EDITORIAL

The A. M. A. Meeting.

THERE were many of us who were, of necessity, hindered from attending the recent meeting of the A. M. A. at Atlantic City and who have had to depend on press reports and the later word-of-mouth for information as to what was done. It appears that Atlantic City's weather conditions have again proved not exactly all that could be desired, and it is doubtful if this seaside resort will soon again prove a unanimous choice for an early June meeting; rain and the chill from the ocean are not promoters of enthusiasm. Nevertheless the meeting was a splendidly effective one, and while attended by a considerably smaller number of members that were present at Boston and Chicago accomplished an amount of scientific and other business which was satisfying in the extreme. The press tells us of various subjects discussed in connection with the various programs which must have been richly entertaining; more than usual attention seems to have been devoted to the health and welfare of children of school age, their proper feeding, proper exercise, school sanitation and an abandonment of the present system of crowding their mental development to an extreme which is detrimental to health and *proper* development, which was voiced and approved. A scientific discussion of the effects of the habitual ingestion of alcohol on progeny was also the subject of discussion. In introducing this subject Dr. T. A. MacNicholl, of New York, said:

"Conditions in the New York public schools rival those of ancient Sodom. Degeneracy, mental deficiency and other drawbacks to the proper education of youth have increased at a pace that threatens the future of the republic," according to Dr. MacNicholl, who blames much of the evil on the taint of the alcoholic habit and functional disor-

ders handed down from parents who have been habitual or even moderate users of alcohol.

"Degeneracy and mental deficiency have increased at such a rate that efforts made by both educators and the New York Board of Health to combat the mental failure, through special schools, have failed to keep pace with the growth," said Dr. MacNicholl.

"Even in cases where the best physicians fail to discover functional disorders due to the use of alcoholic beverages in their users we find the diseases in their children and grandchildren," declared the speaker, whose exhaustive inquiry into causes of failure by children to show normal characteristics furnished the basis for his paper.

"In my study of 30,000 children taken from the school attended by the wage-earning classes in New York, I have found conditions apparently incredible in a civilized country," he said. "Laboring under the functional taint inherited from drinking parents, we found that 79 per cent of children have managed to get alcoholic beverages in some form, ranging from a glass of beer a week to five glasses a day. Twenty-one per cent drink wine or spirits. Of the children found to have parents addicted to the use of alcohol, 71 per cent are afflicted with functional or organic disorders directly traceable to their inherited weakness from alcoholic parents, and the trail leads even to the grandchildren of moderate or more regular users of alcoholic beverages."

Not only the children of the poor, but also those of the better classes are suffering from the alcoholic excesses of parents, according to Dr. MacNicholl.

This subject is one which is attracting more and more the serious attention of the profession and it will, in all probability, play a more important part in the ultimate solution of the liquor problem than will any other movement or argument.

The association expressed itself in no undecided voice on the matter of food preservatives and inaugurated a movement purposing the elimination by legal enactment of certain preservatives. We must confess that we are still unable to see the reason for the resolutions adopted or the tremendous fear of the benzoate of soda which possesses some of our leaders; but we are not questioning their beliefs or motives, and we have a confidence in those in authority at Washington, the subject will be viewed from all sides before it takes the form of an enactment.

The invitation of St. Louis to the association for its 1910 meeting was accepted.

The following officers were elected by the the association and its various sections:

President, William H. Welch, Baltimore.

Vice-Presidents, Robt. Wilson, Jr., Charleston, S. C.; Charles J. Kipp, New Jersey; Alexander Lambert, New York, and Stanley Black, Pasadena, Cal.

General Secretary, Geo. H. Simmons, Chicago.

Treasurer, Frank Billings, New York.

Trustees, M. L. Harris, Chicago; G. A. Doherty, Indiana; William T. Councilman, Harvard.

Section on Surgery—Chairman, Charles H. Mayo, Rochester, Minn.; vice-chairman, Thomas Huntington, San Francisco; secretary, W. D. Haggard, Nashville; orator on surgery, Robert Abbe, New York; delegate, Edward H. Ochsner, Chicago; alternate, J. W. D. Maury, New York; executive committee, Arthur D. Bevan, Chicago; Rudolph Matas, New Orleans; John C. Munro, Boston.

Section on Pathology and Physiology—Chairman, H, Gideon Wells, Chicago; secretary, Yandell Henderson, New Haven; delegate, W. B. Cannon, Boston.

Section of Cutaneous Diseases—Chairman, George W. Wende, Buffalo; vice chairman, M. L. Heidingsfeld, Cincinnati; secretary, H. R. Varney, New York; delegate, W. A. Pusey, Chicago.

Section of Ophthalmology—Chairman, W. C. Posey, Philadelphia; vice chairman, Hiram Woods, Baltimore; secretary, Albert E. Bulson, Ft. Wayne; executive committee, G. C. Savage, Nashville; William H. Wilder, Chicago and Alvin A. Hubbell, Buffalo.

Stomatology—Chairman, Thomas L. Gilmer, Chicago; vice-chairman, J. G. Sharpe, San Francisco; secretary, Eugene S. Talbot, Chicago; delegate to the House of Delegates, George V. Brown, Milwaukee.

Laryngology and Otology — Chairman, Chevalier Jackson, Pittsburg; vice chairman, George F. Cott, Buffalo; secretary, George E. Shambaugh, Chicago; delegate, D. Braden Kyle, Philadelphia; executive committee, W. Sohier, Bryant, New York; S. MacCuen Smith, Philadelphia; H. W. Loeb, St. Louis.

Pharmacology and Therapeutics—Chairman, David Edsall, Philadelphia; vice chairman M. I. Wilbert, District of Columbia; secretary, W. G. Motter, District of Columbia; delegate, C. S. N. Hallberg, Chicago.

Hygiene and Sanitary Science—Chairman, J. N. Hurty, Indianapolis; vice chairman, C. F. Williams, South Carolina; secretary, Langdon Price, Maryland; delegate, J. H. White. New Orleans.

Diseaaes of Children—Chairman, William J. Butler, Chicago; secretary, G. R. Pisek, New York; delegate, Charles Douglas, Detroit.

Nervous and Mental Diseases—Chairman, Theodore Diller, Pittsburg; secretary, William Jones, Minneapolis; executive committee, M. Allen Starr, New York; Morton Prince, Boston; T. H. Weisenberg, Philadelphia; delegate, M. Allen Starr, New York.

Practice of Medicine—Chairman, George Blumer, New Haven, Conn.; secretary, Wilder Tileston, Boston; delegate, J. A. Capps, Chicago; orator, Richard C. Cabot, Boston.

Obstetrics and Diseases of Women—Chairman, John E. Clark, Philadelphia; vice chairman, C. C. Frederick, Buffalo; secretary, C. J. Miller, New Orleans; delegate, H. E. Wetherill, Denver.

The Packing House Scandal at Our Door.

THE cause of vegetarianism has been given a new impetus by the recent resignation of J. T. Harms, a government meat inspector stationed at the East St. Louis packing houses, and his explanation to Secretary of Agriculture Wilson for having done so. Aside from the menace to health there is something so distressingly disgusting in facts which could lead to such revelations; the facts, if established, seem so nearly on a par with the fiendishly criminal, and if not established still leave such doubt in the general mind that it is doubtful if any degree of investigation and exoneration will be accepted as more than official whitewash. The agitation against the preservation of clean, wholesome, fresh foods whereby harmless preservatives are added to keep them sweet and wholesome, or even by the addition of preservatives over which there is a difference of opinion as to there harmlessness when ingested in considerable quantities, pales into insignificance when compared with the thought of having sick cattle slaughtered and their flesh approved by government officials for human food; even the thought of meat foods otherwise fit for ingestion spilled on dirty floors and into sewers but rescued and put on the market, is enough to convert almost anyone who has a fair stomach that it is time to cut out our meat and animal products entirely. We do not know what will be the outcome of the investigation. We have lately seen whitewash applied in the face of damning evidence in an entirely different line, and that by people whose ideals are supposed to be as high as the highest, but we do not believe that public apprehension will be allayed in this case by the usual statement that all is well, and a little better than we had reason to ask or expect.

MEDICAL PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

INTERNAL MEDICINE.

O. E. LADEMANN, M. D.

The Routes of Invasion of Tuberculosis.—Ravenal (Wisconsin Med. Jour., May, 1909) bases the following remarks on what he has read and studied and the work done by himself. He says at the present time we must consider inhalation as being the chief method of the contagion which takes place in tuberculosis, but that this is the only cause can not be held any longer. He is unable to express any opinion as far as the proportion of cases due to ingestion as compared to those due to inhalation, but says that probably in children about 25 per cent of cases are due to ingestion rather than inhalation. The lesson to be learned is this: that infection is the chief cause, no matter by respiration or ingestion, and that those people who spend their entire time in destroying sputum and in destroying sources of infection from dust, while they are doing excellent work, are leaving open an avenue of infection. Without decrying in any way, shape or form, the efforts at prevention of tuberculosis by the lessening of dust and destruction of sputum, let these people at the same time realize that it is absolutely necessary, in order to preserve the health of our children especially, to have milk only from tuberculin tested cows; and in every city and throughout our commonwealth and throughout every state in our Union, there should be ordinances passed in every city and state requiring that persons furnishing milk for consumption of individuals and children should be only from tuberculin tested cows.

Primary Splenomegaly of the Gaucher Type.—Brill, Mandelbaum and Libman (Am. Jour. of the Med. Sc's, June, 1909) detail the history and pathologic findings of the second of four cases occurring in a single generation of one family. In this instance death resulted from a fractured skull and lacerated brain following an injury. From a study of their own cases and a review of those published by others, they state the following: splenomegaly (Gaucher type) is a distinct disease, starting in early life, often affecting several members of a family, and running a chronic course. It may be recognized by a great enlargement of the spleen, which precedes a similar enlargement of the liver, and is unaccompanied by jaundice or ascites; by the discoloration of the skin, especially where exposed to light; and by the absence in the

blood of any characteristic findings. The disease has none of the characteristics of malignancy and usually terminates as the result of an intercurrent affection. The organs affected are the spleen, liver, lymph nodes, and bone marrow. Histologically these organs show the presence of large cells with small nuclei and a peculiar hyaline cytoplasm, which arise from the endothelium or normal reticulum, and the presence of pigment containing iron. The etiology is unknown, though a peculiar susceptibility of the endothelium or reticulum of the hemapoietic apparatus to some unknown toxic agent is most likely present. There was nothing in the authors' cases even suggesting tuberculosis. The authors say that when found in cases of this disease it must be considered as a superimposed process.

The Detection of Oxybutric Acid in the Urine.—Hart (Am. Jour. of the Med. Scs., June, 1909) proposes the following method on account of its exceeding simplicity and easy applicability. The test depends on the following principles: Acetone and diacetic acid are removed by heat, the oxidation of oxybutric acid to acetone by means of hydrogen peroxide, and the urine thus treated is tested for acetone. To 20 c.c. of suspected urine add 20 c.c. of water and a few drops of acetic acid and boil until the volume is reduced to about 10 c.c. To this residue add water to the original volume (i.e., until it measures 20 c.c.), divide this equally into two test-tubes. To one add 1 c.c. of peroxide of hydrogen, warm gently for about one minute (do not boil), and then allow the fluid to cool. Add to each test-tube one-half c.c. of glacial acetic acid and a few drops of freshly prepared watery solution of sodium nitroprussiate and mix. Overlay the solution in each test-tube with 2 c.c. of concentrated ammonium hydroxide. Allow these to stand for four or five hours, and at the end of this time compare the two test-tubes. At the point of contact between the ammonia and underlying fluid in the control tube no ring appears (or a faint brown ring if much creatinin is present), the test-tube to which hydrogen peroxide was added, will show a purplish red contact ring if oxybutric acid was originally present, if oxybutric acid was not present the two test-tubes will not differ in appearance. If the two test-tubes are now shaken, the difference in color will be seen throughout the fluid; this difference is intensified by allowing the tubes to stand for 15 to 20 minutes after shaking. The test may be applied to the urine either before or after fermentation as the presence of sugar does not interfere with the reaction. If albumin is present it should be removed by filtration after the urine has been boiled. The method is moderately delicate and will certainly detect oxybutric acid when present to the extent of 0.3 per cent, and probably less.

Gastric Symptoms Consequent on Arteriosclerosis.—Akin (Jour. A.M.A., June 5, 1909) details the history of five cases and says, in the matter of diagnosis, it is of the utmost importance not to be led astray by the complaints of the patient as to indigestion, pain in the stomach, distention and belching, and so neglect to obtain a full history and make such a careful physical examination as will reveal the deeper causes of which these digestive troubles are only symptoms. It is not that the diagnosis is in itself so very difficult, but rather that the case presents a picture which the physician has not learned to recognize. It seems that the most necessary thing is to call the attention of physicians to the relative frequency of such cases and to urge them to look further than the stomach when they have a patient past middle life complaining of pain in the stomach, distention after eating if he attempts any physical exertion, and dyspnea, relieved by belching of gas; especially when nocturnal seizures, accompanied by dilatation, heart disturbances, dyspnea and great anxiety are prominent symptoms. An examination of the vascular system will usually clear up the matter, as slightly enlarged heart, snapping second aortic sound, precordial pains, hardened arteries, increased tension, etc. The treatment, which is dietetic and medicinal often give quite satisfactory results. The diet should be restricted to plain, nutritious and digestible food, the evening meal very strictly limited. Hygienic aids, as are suitable to the case, as bathing, fresh air, exercise, attention to the bowels, relief from work, etc., should receive careful attention. The vasodilators rank foremost among the drugs, of which diuretin is the most effective, given in ten to fifteen grains three times daily. Potassium or sodium iodide in doses of five to ten grains may be continued over a long period.

Cutaneous and Conjunctival Tuberculin Tests in the Diagnosis of Pulmonary Tuberculosis.—Hamman and Wolman (Archives of Internal Medicine, May, 1909) formulates the results of their investigations as follows: 1. In adults the cutaneous tuberculin test is of value in diagnosis only when it is negative. 2. The frequency of its occurrence runs roughly parallel with that of the subcutaneous test. 3. The conjunctival test is of value principally on the positive side, a definite

reaction indicating the presence of an active tuberculous lesion. 4. The most satisfactory results are obtained by using the two tests simultaneously. Both being negative speaks for the absence of any active tuberculous focus; both being positive, for its presence; the conjunctival negative and the cutaneous positive give no information of value. 5. We cannot admit that the conjunctival or cutaneous reactions have any prognostic value. 6. The same conjunctiva should never receive a second instillation. The reaction so obtained is valueless for diagnosis and the procedure not without danger. 7. We believe that with proper precaution the conjunctival test may be used without danger of permanent injury to the eye. 8. We have been unable to confirm in any particular the claims Detre makes for the differential cutaneous reaction.

THERAPEUTICS.

E. S. MCKEE, M. D.

Treatment of Lupus Vulgaris.—John V. Shoemaker, M. D., LLD., in a paper of much value in the Monthly Encyclopedia and Medical Bulletin of Philadelphia, its March, 1909, issue, says: His observations led him to believe that the disease is largely constitutional and he has found it to occur as a rule in poorly nourished children and chlorotic and tuberculous patients. I have, he says, on this account obtained my best results by resorting chiefly to constitutional treatment. Of course local treatment must be resorted to as well, to prevent the further progress of the ravages of the disease. While there is no remedy which has special curative effects, but general hygienic attention, good diet, with alterative and tonic treatment and proper hygienic local measures, will beyond a doubt, be productive of the best results. He recommends:

℞ Strychninae sulphatis..... gr $\frac{3}{5}$
Liquoris acidi arsenosi.....3ij
Acidi hydrochlorici diluti.....3iv
Glyceriti pepsini.....q.s.ad. 3iij

M. Sig.: One teaspoonful in water a half hour after each meal.

Locally. Where ulceration is present we will apply every second day, pure phenol to the parts involved. This will destroy diseased tissue and stimulate healthy granulations. A stimulating ointment should be applied twice daily and as such we will prescribe:

℞ Olei eucalypti,.....
Creosotii (beechwood).....aa *m*x
Hydraryii ammoniati.....gr.iv
Unguentii zinci oxidii.....3j

M. Sig.: Apply on the affected parts night and morning.

Compound for Cleansing Hands.—The Druggists Circular gives the following formula for cleansing the hands. Egg albumin 8 parts, boric acid one part, glycerine 32 parts, perfume to suit, soft water enough to make 50 parts. Dissolve the acid in sufficient water, mix the albumin in sufficient water and pass through a silk strainer (handkerchief). Mix the two fluids and add the remaining water. After washing the hands in the usual manner, dry gently with towel, then moisten with the liquid, and remove the excess without rubbing. Apply at night before retiring. It is of the greatest importance that the physician, though compelled to put his hands frequently in filth and discoloring matter should always appear with clean hands. He who is most careful with the least of these things frequently makes the biggest hits, especially with the ladies, a most important part of our clientele.

Formula for Nobles Enema.—This formula first published by C. P. Noble, of Philadelphia, is highly recommended by him for producing the most positive results in paretic bowels. It consists of magnesium sulphate 2 ounces, glycerine 2 ounces, turpentine a half ounce, and water enough to make four to eight ounces. This enema is recommended highly when there is a difficulty in obtaining a movement of the bowels after an operation.

Epsom Salts Made Palatable.—A very fine preparation of epsom salts, according to Burnett Physicians Drug News, October, 1908, is made by taking two pounds of the salts, one ounce of the tincture of cardamon, twenty grains of vanillin, three drachms of saccharin, two ounces of alcohol, two ounces of glycerine, two ounces of coffee (roasted and ground) and water to make a half gallon. Stir the coffee in the half gallon of hot water and let it stand for fifteen minutes and let it draw, then add the salts, vanillin and tinct. of cardamon to the alcohol and shake; then add the glycerine and the saccharin, and when coffee mixture is cold enough, mix all together and filter. A half ounce of the salts is contained in each ounce of the mixture. It keeps well, acts well, tastes well, and children cry for it.

Rheumatism in Children.—Dr. Thos. F. Harrington in the Boston Medical and Surgical Journal discusses with wisdom the points wherein rheumatism in children differs from that in adults. In children the tonsils are the most common source of infection. The arthritic symptoms are not so

well marked as in adults and are apt to come on insidiously. Recurrent tonsilitis, chorea erythema, nose bleed, are often associated with arthritis. Continued fever with slight remissions suggests endocarditis. We do not find the same suggestive involvement of joints as is seen in adults. A family history or a history of 'growing pain' suggests rheumatism. Muscular pains are not always due to rheumatism, but are sometimes incidental to growing children. The heart symptoms will not be found in acute cases, but in long standing ones. Time is required to infect the system. Exercise if neglected will often result in stiff joints. The disease may produce inflammatory conditions in the glands. Simple bitters and cathartics aid by toning up the system, stomach and assisting the secretions. It is a safe, plan to administer aconite in small doses where tonsilitis is present and to follow general treatment.

The Treatment of Burns in the Berlin Charite.—Pels-Leusden describes the method of handling burns in this noted institution. Extent of surface involved has much to do with the prognosis. The patient almost always succumbs if more than one-half of the surface of the body is involved. One-third of the cutaneous surface involved is frequently followed by death. The determination of the degree of the burns is next in importance. Burns may appear to be of the first degree and later show the formation of blisters or scabs. The third point of importance is the time which has elapsed between the time of the burn and the examination. Hemoglobinemia and hemoglobinuria are seen in many cases, the temperature sinks and other symptons indicate an intense toxic action. It is therefore necessary to administer digitalis and large quantities of fluids. As the patients are usually thirsty there is no difficulty in getting them to swallow large quantities of strong coffee and tea, brandy and champagne. Repeated enemata of physiological salt solution, 100 c.c. each, or if the blood pressure is sinking, intravenous injections of the same, often do good. This treatment will not always save, but acts well in many cases of doubtful prognosis. Morphine must be given to allay pain and to quiet the patient. The general symptoms must always be treated first, and it must be remembered that the treatment of the local condition may increase the shock. As a rule general symptoms pass off in from five to six days, but death has been seen after eight even ten days without sepsis or duodenal ulcer being present. Local treatment of burns of the first degree he considers unimportant, but this is not so in burns of second degree. Avoid infection of the wound by first thoroughly disinfecting the burned area. This is extremely painful and can not be properly done without some form of anesthesia. Non-extensive burns may be disinfected by local anesthesia, in other cases a conduction anesthesia or a lumbar anesthesia. In extensive burns of the head or body a general anesthesia may be resorted to. The vesicles are well opened and the whole surface well washed with soap and water and a brush for ten minutes. Alcohol and perchloride of mercury solution are then applied for two minutes, and lastly the wound is covered with a gauze dressing with a thick layer of absorbent wool and another of non-absorbent wool. Exclusion of air relieves pain. If the secretions of the wound are free it may become necessary to change the wool but not the gauze. In ten or fourteen days the whole dressing is spontaneously cast off. The wound is then found to be epidermizing well and the scars are usually satisfactory. Splints may be necessary in the process of healing to prevent contraction of joints. Early injection of thiosaminine of frobrolysine are usual to obviate contracting scars in the skin.

Improvements at Mount Sinai Hospital. —Plans have been filed for the enlargement of the dispensary and training school for nurses of the hospital. Two stories will be added to the dispensary, making it a five story structure, and a seventh story will be added to the nurses' home. The ornamental roof house of the medical pavilion will also be enlarged considerably. The two new floors of the dispensary will be fitted with a laboratory and a neurological ward, with rooms for medical treatment. The proposed improvements will cost about $126,000.

Dr. John Dooley, one of the first eclectic physicians in St. Louis, died at his home, 4344 West Pine boulevard, on June 12, of a complication of diseases. He was 77 years old and had been in ill health for a year, though confined to his bed but three weeks. He was born at Burton-on-Trent, England, in 1832, and graduated from the regular school at that place at the age of 20. He came to America in 1863 and was graduated from the Physio Eclectic Medical College of Ohio, at Cincinnati, two years later. For several years he practiced his profession at Leavenworth, Kan., where he also served as surgeon for a year in the State Militia. In 1877 he moved to Kansas City, Mo., and in 1889 came to St. Louis, where he has lived since.

CORRESPONDENCE

THE EIGHTH ANNUAL MEETING OF THE AMERICAN UROLOGICAL ASSOCIATION.

EDITOR MEDICAL FORTNIGHTLY:

The sessions of the American Urological Association were so eminently successful and interesting this year, that I cannot refrain from telling you something about the meeting.

Held under the presidency of Dr. Wm. T. Belfield, of Chicago, whose large faculty of organization appears in the program, the forty-odd papers contributed harmonized well with the standing and recognized ability of the contributors.

The brisk beginning of Monday morning, with the cluster of papers on vesicular anatomy, pathology and treatment, by Drs. Quinby, Fuller, Martin and Barnett, was maintained in interest to the end of Tuesday evening, when the scientific part of the program was finished with the symposium on renal and ureteral surgery by Drs. Mayo, Howard Kelly, Harris, Bevan Hunner and Brewer.

The verdict of those who were fortunate enough to hear the presentation of this symposium, both visitors and members, was that it alone was worth the trip to Atlantic City, even from such distances as the Pacific coast.

That renal and ureteral surgery received a comprehensive and searching consideration is indicated by the fact that almost the whole of Tuesday was taken up on those subjects, an extra session on Monday evening being required for consideration of Monday afternoon's program.

The papers on gonococcus vaccines developed varying views, mainly favorable to the product and its usefulness in certain gonorrheal complications.

The proposal submitted by some of the members that the Urological Association become officially affiliated with the American Association in the capacity of a Urological Section, was not received favorably, was negatived by a practically unanimous vote. It was believed that the Urological Association held a position of individuality and attainment as an independent organization that would not be maintained as a section of any other body. As it stands at present, many of the members belong and contribute to both associations; if amalgamated, such members being able to register with only one section at a time, would necessarily have to make a choice between such section and some other in which they were already interested, which would probably entail a loss on the part of the Urological Association's interests.

The American Medical Association has, by the way, practically authorized the making of a new section on Urological and Genito-Urinary Diseases, whose work is to embrace such subjects of venereology as are not considered in the Urological Association. Hitherto there has been no inviting field presented in either association for the consideration of these very essential topics. Dr. Eugene Hay, delegate from Arkansas, initiated the movement to establish the new section. There will be no conflict in the work of the two organizations, which differs materially. The Urological Association excludes from its programs the topics of syphilis, gonorrhea and chancroid, and embraces all urological surgery and medicine.

The Urological Association has again been fortunate in its choice of officers for the ensuing year. Its president will be Dr. Eugene Fuller, of New York; vice-president, Dr. Granville MacGowan, of Los Angeles; secretary and treasurer, Drs. Cabot and O'Neil, both of Boston.

BRANSFORD LEWIS.

A BILL of $41,000 for three years' medical services, filed against the estate of the late John E. Herrell, Washington, D. C., by Dr. Joseph L. Kaveny, is occupying the attention of officers of the American Security and Trust Co., executors of the estate.

A COMMITTEE from the Pettis County Medical Society has asked the owner of the Haywood Hospital, Sedalia, Mo., to sell the institute to be converted into a city hospital. He set a price of $40,000 on the building and equipment, and the question is to be voted on by the society at its next meeting.

THAT homeopathic physicians should adhere more to the Hahnemannian principle of homeopathy and care little what attacks are made upon them by other lines of the medical profession were arguments advanced, May 25, at the opening session of the forty-third annual meeting of the Indiana Institute of Homeopathy at Indianapolis.

MEDICAL EXAMINATION AS A PREREQUISITE OF MARRIAGE.—The new Washington State law providing that applicants for marriage licenses must undergo medical examination went into effect on June 10th. Ten couples appeared at the license clerk's office without physicians' certificates, and two couples, when informed of the new law, said they would go to British Columbia to marry. County officials say the new law will result in many Americans marrying in Canada.

SOCIETY PROCEEDINGS

THE ILLINOIS STATE MEDICAL SOCIETY, at it annual meeting in Quincy on May 18 to 20, elected the following officers: President, Dr. J. Leaming Wiggins of East St. Louis; vice-presidents, Dr. C. U. Collins of Peoria, and Dr. James E. Stubbs of Chicago; secretary, Dr. Edmund W. Weis of Ottawa; treasurer, Dr. Everett J. Brown of Decatur.

THE IOWA STATE MEDICAL SOCIETY, at its annual meeting in Dubuque on May 19 to 21, elected the following officers for the ensuing year: President, G. E. Crawford of Cedar Rapids; first vice-president, M. L. Bolding, Cherokee; second vice-president, H. H. Clark of McGregor; secretary, V. L. Treynor, Council Bluffs; treasurer, W. B. Small of Waterloo.

THE OKLAHOMA STATE MEDICAL ASSOCIATION, at its meeting at Oklahoma City on May 13, elected the following officers for the ensuing year: President, Dr. W. C. Bradford of Shawnee; vice-presidents, Dr. C. L. Reeder of Tulsa, Dr. D. A. Myers of Lawton, Dr. J. W. Duke of Guthrie; secretary-treasurer, Dr. Claude Thompson of Muskogee.

THE IOWA STATE SOCIETY OF MEDICAL WOMEN was in session at Dubuque on May 17 and 18. The election of officers for the ensuing year resulted as follows: President Dr. L. Means, Des Moines; first vice-president, Dr. Kate Horpel, Boone; second vice-president, Dr. Pauline Myers-Townsend, Marshalltown; secretary, Dr. Lena Beach, Cherokee; treasurer, Dr. Clara Whitmore, Cedar Rapids.

THE MONTANA STATE MEDICAL ASSOCIATION, in session at Missoula on May 12 and 13, elected the following officers: President, Dr. T. D. Tuttle, Helena; first vice-president, Dr. J. J. Buckley, Missoula; second vice-president, Dr. F. C. Cuttle, Hunters Hot Springs; third vice-president, Dr. F. E. Buchen, Hamilton; secretary, Dr. H. C. Kistler, Butte; treasurer, Dr. C. T. Pigott, Butte. Hunters Hot Springs was elected as the meeting place for next year.

EPIDIDYMITIS.—

℞ Ichthyoli, ... fl. ʒvj.
Ungt. hydrargyri, ...
Ungt. belladonnae, ... aa ʒiv
Cerati plumbi subacetatis q.s. ad ʒji

M. Sig.: Apply to scrotum freely twice or thrice daily, and support with large suspensory bandage.—Merck's Archives.

ST. LOUIS ITEMS

DR. AND MRS. BRANSFORD LEWIS sailed from New York for Europe on the 20th. They will return home in the early fall.

DR. M. F. ENGMAN has been appointed professor of Dermatology at St. Louis University, to fill the chair held by Dr. John H. Duncan, resigned.

ST. LUKE'S HOSPITAL and Mullanphy Hospital are each beneficiaries named in the will of the late C. R. Gregory to the amount of $50,000 and $10,000 respectively. These bequests will be paid on the death of Mr. Gregory's sister, who has a life interest of his large estate.

DR. HENRY LLOYD, former coroner of St. Louis and subsequently a deputy coroner under Coroner Baron, was on the 14th appointed assistant superintendent of the State Hospital for the Insane at Farmington at a meeting of the Board of Managers held on that date, at which it effected an organization. The superintendent was not selected, but Dr. J. F. Harrison, who is a Democrat, may hold over for a time.

ANTITUBERCULOSIS WORK IN ST. LOUIS.—Just before the convention of the National Association for the study and prevention of tuberculosis closed its recent session Robert J. Newton, a St. Louis delegate, reported on the work and accomplishments of the St. Louis Tuberculosis Commission. The delegates applauded the statement that St. Louis City has given $25,000 for educational work. This is the largest amount yet appropriated by any city for this purpose. Mr. Newton described the system of open-air meetings held from time to time throughout the city and received assurances from Chicago and Cincinnati delegates they would visit St. Louis to study this feature of the work, to adopt a similar system in their own cities. Mr. Newton also told the convention the commission is hopeful a hospital bill carrying an appropriation of $50,000, similar to the one vetoed by Mayor Wells early in the present year, soon would be passed by the House of Delegates.

INTERNATIONAL MEDICAL CONGRESS.—Physicians who are contemplating a trip to Budapest, to attend the Congress, will find it to their advantage to join the American Party that is being organized by Dr. Chas. Wood Fassett, of St. Joseph. A 41-day trip for $395, including hotel bills and all expenses, has been arranged, with privilege of returning later if desired.

THE MEDICAL FORTNIGHTLY

A Cosmopolitan Biweekly for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scentific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

Advertising forms close on the first and fifteenth of each month. Time should be allowed to submit proof for correction. Advertising rates on application.

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Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

Editorial offices in St. Louis and St. Joseph, where specimen copies may be obtained, and subscriptions will be received.

Contributions and books for review should be addressed to the Managing Editor, 319 and 320 Century Building, St. Louis, Mo.

MEDICAL MISCELLANY

UNIVERSITY of Pennsylvania has received an anonymous gift of $200,000 through the efforts of Dr. John H. Musser, to be used to endow a department of research in medicine.

UPSETTING NATURE'S LAWS.—"We have reversed the ordinary laws of nature," said a witty United States Senator, speaking of himself and on almost preternaturally dignified colleague. "Blank has risen by his gravity; I have sunk by my levity."—Youth's Companion.

THE Neurological Institute of New York has been incorporated, and plans are being made to alter two dwelling houses for headquarters. The originators of the plan are Drs. Joseph Collins and Joseph Frankel. About $100,000 has been promised for the purchase of a site for this hospital and clinic, which will the first of its kind in America.

RETIREMENT OF DR. A. W. MCALESTER.—After thirty-seven years of active service as a teacher in the Medical Department of the Missouri State University, of which he was some time dean, Dr. McAlester resigned at the last commencement. His term of active service entitles the doctor to the benefit of the pension of the Carnegie Foundation and he is assured an annual income of $2,000 from this source during the remainder of his life.

COMPLAINTS are coming to the Indiana State Board of Medical Registration and Examination that physicians in "dry" territory have been guilty of misusing their powers to prescribe liquor for a consideration when sought for that purpose by the thirsty. The complaints state that all that is necessary to make the "blind tiger" wink is to first tip the wink at the doctor. Sometimes a "dry" weather reference is necessary. There may be, and probably are, other methods by which the doctor willing to write such prescriptions receives the message, but they have not been communicated.

SOAP AND THE ANCIENTS.—From the writing of Pliny, the elder, it is evident that soap was known to the Romans as early as the first century. According to him the ordinary article was prepared with ashes and tallow, while a better quality of soap was made with goat's fat and beechwood ashes. Neither of these products was hard, but of the consistency of the common soft soap, and, curiously enough, were used frequently by the Gauls in bleaching their hair, and by the Romans as a perfume. Pliny says that the article most in use for washing was saponin, the mucilaginous product of a Syrian plant. —Health.

MEDICAL JOURNALS.—Any physician and surgeon with four or six of our modern leading one dollar journals should be a first-class man if he can read and understands what he reads. I am taking one or two journals that my father took forty years ago. I must have my medical journals. I am taking five independent journals. I figure I can get more out of five one-dollar journals than out of a five-dollar association organ. I would not trade any of my journals for an association organ. You ask why this is? Because the independent editors are free as the air we breathe; they give us straight goods; they are real helpers. And second, the independent journals are not filled with association news. Association business will not save a patient's life. Draw your own conclusions. —Frank L. Fuller, M. D., in Medical Standard.

WHAT has medicine accomplished? 1. It has fought death successfully and unsuccessfully. 2. Medical men and women have devoted their lives and sacrificed their health in the battle against disease and death. 3. Medical men and women have unselfishly fought for prophylaxis against disease—lessening their own income. What class of citizens has done more? Physicians should share in legislation, they should collect just debts, they should be organized—which is the keystone of power.—Bryon Robinson.

SUMMER CAMPS OF INSTRUCTION FOR MILITIA MEDICAL OFFICERS.—The Surgeon General of the Army is establishing three camps of instruction for the benefit of the medical officers of the National Guard during the coming summer, one at Antietam, Md., one at Sparta, Wis., and one near San Francisco. Each camp will be provided with a field hospital with an ambulance company section complete, the hospital and company to be supplied with a full war complement of officers and men. In addition to this, three specially selected medical officers will be assigned to each camp as instructors, one as instructor in hygiene, one as inspector in field work, and the other as instructor in regulation papers, etc. According to present plans each camp will be maintained for a period of four weeks, and the course of instruction will be divided into two periods of two weeks each.

SCHOOL PUNISHMENTS.—There are some schoolroom punishments in very common use incompatible with the best physical interests of the pupils. The maintenance of discipline is, of course, essential to progress and to mental tranquillity. In some schools, however "discipline" is worshiped, and for its maintenance some harmful punishments are inflicted. Nor is the offending culprit the only one to suffer. Not infrequently the whole class is punished for the misdeeds of a few. A very common form of punishment is the keeping in at recess time. This is wrong. It ought not to be permitted. The recess hour is for children; it is the recreation hour and surely the younger children can ill afford to lose it. Another punishment, simple and inoffensive in itself, becomes harmful from too long infliction. The placing of the head on the desk and keeping it there until told to sit up seems a mild sort of thing. But when the unnatural position is kept for half an hour or longer, perhaps because the teacher has forgotten the child, it becomes a really severe and harmful practice. This form of punishment is limited to the younger classes and these are the very ones most harmed by it. The possibility of harm should be eliminated from all punishments administered to school children.—School Hygiene.

THE SAYINGS OF MRS. SOLOMON.

Verily, verily, my daughter, why should any woman seek to be a man's soul-mate, even his affinity, which is a side-dish and an amusement? Lo, what glory dost thou consider it to flirt with a married man? For this is taking candy from a babe! Yea, it is too easy!

Yet, what shalt thou do, when thou hast discovered the identity of thy husband's affinity, whether it be a red-headed widow or the blonde across the street?

For if thou revilest her, she shall rejoice in thy confusion and mock the with her ha has. But if thou invitest her to dinner she shall wink and smile privily, saying: "Is she foolish or is this mere bravado!"

If thou eatest thy heart out in silence, thou shall court worry, wrinkles and nervous dyspepsia.

For, I say unto thee, an affinity is only a change, but a wife is a steady diet which hath become tiresome. Therefore, get thee into the country for a long visit and make the ways of the affinity easy. Lo, make thyself the change and let the affinity become the constant diet. Yea, stuff her down his throat.

And behold, he shall grow faint with satiety and shall long for thee as one longeth for roast beef and potatoes after too much lobster and champagne.

Then give the affinity the fruit of her labors, which is nothing but seconds, even the left-overs! Yea, let her rejoice in canned emotions and evaporated sentiments and console herself with warmed-over love! For she is welcome! Selah!—Helen Rowland in the Post-Dispatch.

A single application of sulphuric acid in a large quantity of water—freely diluted, will often destroy every trace of the itch insect—acarus scarus scabei—and quickly cure the disease.

HEMORRHOIDS.—A fine thing for piles is:

℞ Aristol, ...
Europhen .....
Orthoform ..... aa 3j.
Ol. vaseline. C.P., ... 3j.

Mix and boil for a few moments, and then add specific tincture thuja 3ij. Mix, fill a rectal capsule and insert high up in the rectum; or the above powder with the thuja can be made into a salve with lanolin and vaseline and rubbed on the piles.—The Med. Sum.